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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/822,005	04/12/2004	Hiroko Abe	12732-230001	1587

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EXAMINER

NGUYEN, TUAN N

ART UNIT	PAPER NUMBER
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2828

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	03/13/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/822,005

Applicant(s)

ABE ET AL.

Examiner

Tuan N. Nguyen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 November 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-3 and 6-23 is/are pending in the application.
- 4a) Of the above claim(s) 2,3,12-14 and 18-20 is/are withdrawn from consideration.
- 5) ☒ Claim(s) 6-11,15-17 and 21-23 is/are allowed.
- 6) ☒ Claim(s) 1 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 12 April 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>11/30/2006</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Election and Amendment

1. In respond to applicant's response to restriction requirement filed 11/30/2006, claims 1-3, 6-8 have been amended, claims 2,3,12-14, 18-20 have been withdrawn, and claims 4,5,24-29 have been canceled.

2. Applicant's election species IV: figure 4a, with traverse that claim 1 is generic with respect to all species. This argument does not found persuasive because the search and patentability for species figure 4a is not necessary in the search for other species as presented in the restriction, where claim(s) can fall in to solid semiconductor laser pump resonator or particular active media. The search for solid laser pump resonator is not necessary in the search for particular active media, the requirement is still deemed proper and is therefore made final.

3. Applicant's arguments with respect to claims have been considered but are moot in view of new ground(s) of rejection.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
 2. Ascertaining the differences between the prior art and the claims at issue.
 3. Resolving the level of ordinary skill in the pertinent art.
 4. Considering objective evidence present in the application indicating obviousness or non-obviousness.
5. Claims 1 are rejected under 35 U.S.C. 103(a) as being unpatentable over Baird et al. (US 5260963).

With respect to claim 1, Baird et al. '963 discloses and shows a laser oscillator (*Fig 2*) comprising: a laser medium an optical resonator for obtaining a laser beam (*Fig 2: 80 laser medium, and optical resonator 108, 120*); and a pumping source for supplying pumping energy to the laser medium (*Fig 2: 20 laser diode pumping source to medium 80*), wherein the laser medium includes a phosphorescent material dispersed into a host material at a concentration of not less than 10wt%, and where in luminescence from an excimer state of the phosphorescent material, light is amplified by the optical resonator (*Fig 2: wherein the luminescence of phosphorescent material is amplified by the resonator 108, 120*)(*Col 1: 50-55 LiNdP₄O₁₂ lasers ; Col 7: 5-20, 60-65 Nd:YLF, LNP; Col 8: InGaAsP – phosphorescence material is used to amplified by the resonator 120, 108, where phosphorescent substance known as element of nitrogen family especially phosphates/phosphor radiates when energized*). The claim further require wherein the laser medium includes a phosphorescent material dispersed into a host material at a concentration of not less than 10wt%. Baird et al. '963 did not discretely disclose the percent concentration of phosphorescence material, however it has been held that where the

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general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art, in this case the phosphorescent material is not less than 10wt% of the host material. In addition, it would be within one skill in the art to recognize in order to have a high output, the required active concentration of phosphorescence concentration material also high (*Col 7: 13-15.*)

REASON FOR ALLOWANCE

Allowable Subject Matter

6. The following is an examiner's statement of reasons for allowance - Applicant's response filed on 11/30/2006 has been considered, with respect to claims 6, 7, and 8 the references of the record fail to teach or suggest a laser oscillator:

Claims 6, 7:

A pumping source supplying energy to a film containing a laser medium comprises a luminescent doped with phosphorescent material formed over a substrate, wherein the phosphorescent material at a concentration of not less than 10wt%, wherein laser medium comprises a luminescent layer and is interposed between the anode and cathode and the phosphorescent film is amplified by an optical resonator.

Claim 8:

A pumping source supplying energy to a film containing a laser medium comprises a luminescent doped with phosphorescent material formed over a substrate, wherein the phosphorescent material at a concentration of not less than 10wt%, wherein laser medium comprises a luminescent layer that is interposed between a cathode and the plurality of reflective

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materials, where the phosphorescent film is amplified by the cathode and plurality of reflective materials.

7. Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Citation of Pertinent References

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. It is cited primarily to show the product of the instant invention.

Ma et al. (US 6687266), Gharavi (US 6665479) , Seo et al. (US 7097916/ 7045955).

Communication Information

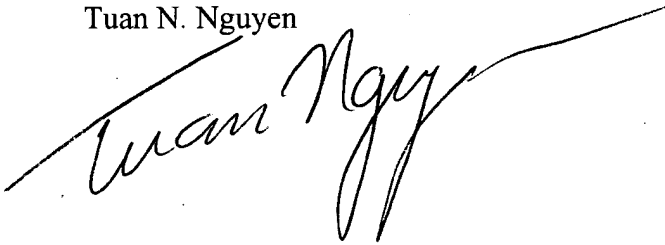
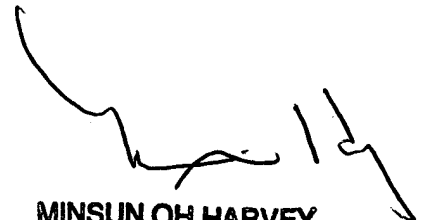
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tuan N Nguyen whose telephone number is (571) 272-1948. The examiner can normally be reached on M-F: 7:30 - 4:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Harvey Minsun can be reached on (571) 272-1835. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Tuan N. Nguyen

A handwritten signature in black ink, appearing to read 'Tuan N. Nguyen', with a long horizontal stroke extending to the right.A handwritten signature in black ink, appearing to read 'Minsun Oh Harvey', with a long horizontal stroke extending to the right.
**MINSUN OH HARVEY
PRIMARY EXAMINER**